

Name:
cs30x _____
Score:

Quiz 3
CSE 30
Spring 2000

#1.

a) Write the appropriate **save** instruction to allocate stack space for the following local variables.

```
int    a;  
char   b;  
short  c;  
long   d;
```

```
save _____ , _____ , _____
```

b) Write the appropriate instructions to store the value 'a' in local variable **b** as defined above (hint: you cannot assign an immediate constant value directly to memory — you can only store from a register to memory).

```
_____ ! 'a' -> %10  
_____ ! %10 -> local variable b
```

c) Write the appropriate instructions to store the value **0x12345678** in local variable **d** as defined above (same hint as above).

```
_____ ! 0x12345678 -> %10  
_____ ! %10 -> local variable d
```

d) Write the appropriate instruction to place the value in local variable **c** into register **%10**.

```
_____ ! c -> %10
```

e) Write the appropriate instruction to place the value in local variable **b** into register **%10**.

```
_____ ! b -> %10
```

(OVER)

#2.

a) Write the appropriate **save** instruction to allocate stack space for the following local variable declaration.

```
int a[7];
```

```
save _____ , _____ , _____
```

b) Write the appropriate instructions to perform the following assignment statements, assuming variable **i** is mapped to **%10**.

```
int i; /* i mapped to %10 */
```

```
i = a[0];
```

```
_____ ! a[0] -> %10
```

```
i = a[5];
```

```
_____ ! a[5] -> %10
```

```
int *ptr; /* ptr mapped to %11
```

```
ptr = a;
```

```
_____ ! a -> %11
```